

# LOADSTAR LETTER

64

# #41

**TURBO232**  
HIGH SPEED MODEM INTERFACE

## New Version Of SwiftLink

CMD has recently announced that they will discontinue SwiftLink-232, replacing it with their new Turbo232 modem interface. Turbo232 provides backward-compatibility with SwiftLink, but further enhances the ability to use modern modems by adding three new high-speed modes of 57.6Kbps, 115.2Kbps and 230Kbps. Turbo232 is slated for release by mid-January for \$39.95 retail. On Usenet, Doug Cotton mentioned "Basically, it replaces the SwiftLink in our product line. It adds 57.6K, 115.2K and 230.4K speed modes, but also remains fully backward-compatible with SwiftLink. We also got rid of all the various circuit board mods that SwiftLink had for special configuration, and moved these to a set of jumpers. Finally, it has a reduced memory footprint to improve compatibility with GEORAM and similar devices."

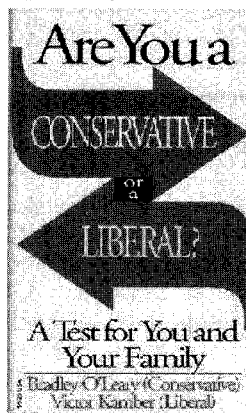
In other CMD news, CMD notes that some HD Series drives using mechanisms with 1 GB (or more) of storage may have problems that can cause data corruption. This problem has been corrected with v1.92 of HD-DOS and v2.78 of the HD Boot ROM. If you have purchased a 1 GB (or larger) drive or drive upgrade directly from CMD, a free upgrade is available by contacting CMD Technical Support at 413-525-0023. All other HD owners may

purchase these items at their normal replacement costs from CMD Sales. ☐

## WebWatch: Jeff Takes C-SPAN On- line Test And "Passes"

By Jeff Jones. Each Month I'll pick a website that's Commodore friendly (not multimedia) and is very interesting. C-SPAN's web page, <http://www.c-span.org>, is multimedia, and has a lot of audio playable only on the latest PCs, but you can get a lot from the text there, too.

The reason I say I *passed* the test is because I wasn't surprised by the results. I'm proud that liberals call me too conservative and conservatives tell me to admit I'm a liberal. Some call it a lack of center. I call it being a determined centrist. Because I regularly post what sounds like liberal propaganda one day and then conservative/religious the next. I got some unexpected, but very refreshing Email the other day:



I could not tell from the postings but are you the guy who does the good retouching work on portraits without a drum scanner? If so, I hope this isn't too strange a question but, what is your political affiliation or ideology? If you find this question offensive, mea culpa and a pox on my family. Otherwise, please e-mail me at your convenience. Thanks! :) Sincerely and Godspeed,

I'm actually as proud as Brian Lamb that this person could not pigeon-hole me based on my political ramblings in various newsgroups. You see I would hate to be called a liberal or a conservative, Republican or Democrat, mainly because I try to keep my soul out of any group's hip pocket. I vote for- and tear down both parties.

Instead of a simple reply, I took two

simple tests available on the world wide web and sent the guy the results. I figure if my wife can take self tests in Cosmo, I can take them online. I found a neat interactive web site at C-SPAN. During a recent Washington Journal feature, Victor Kamber and Bradley O'Leary appeared to discuss their book, Are You a Conservative or a Liberal?, which includes three quizzes designed to help people determine where they fall on the political spectrum. One of these quizzes, the Fall 1994 Quiz, was posted online on the Washington Journal web page at <http://www.c-span.org/book1.htm>. Are You a Conservative or a Liberal? is available for \$5.95 in bookstores or by calling toll free 1-800-847-4800. It's a collaboration of a liberal and a conservative, and if they managed this book without a fistfight they are both probably more centrist than they think.

I took the quiz online at C-SPAN's Website, and chose the best answer that described how I felt, even when I felt I was pigeon-holing myself or hated all options. The quiz scores you online. Here is what it told me about myself after a few seconds: *Based on your responses, your political orientation can be characterized as moderately conservative. On a 40-point scale, with 0 points being 100 percent liberal and 40 points being 100 percent conservative, your score on this quiz was 21. Please note that a higher number of points is not meant to imply a higher level of political consciousness! This method is*

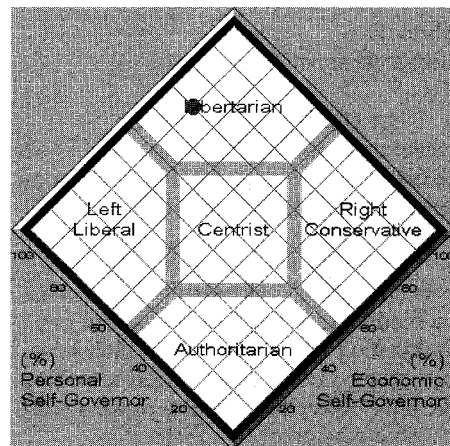
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Jeff's Online political Identity chart

## Echoes of Usenet

*LOADSTAR Is merely repeating these words, not making any endorsements of truth or usability.*

### Making Geos Backups

I have GEOS version 1.2 (1985) with my Commodore 64 (it was just as good as Microsoft Windows was back then, except Windows required a \$1500 PC with at least 320K and a CGA monitor, while GEOS required a \$150 C64 with 64K and a TV!)

Anyway, you can make backups of your original GEOS boot disk using the backup program that comes with GEOS.

The backup disks, however, are non-bootable. It even says right in the instruction manual that you can't use anything but the original disks to boot to. If you try LOAD "\*"8,1 with just a copy of the boot disk, it starts to load, but quits halfway through and returns to BASIC. I want to make a bootable copy of my original bootable GEOS disk, however, since the magnetic media is over 11 years old!

I tried using Fast Hack 'em, which makes track-by-track copies of disks, even copying disk errors (the form of copy protection used back then to foil simple disk-copy programs), and even copying disks not formatted using the standard C64- DOS Kernel. But this didn't work.

Does anyone know what it is about the original bootable GEOS disk that makes it bootable? Is there a signature or marking off the standard floppy disk tracks that GEOS knows how to access that allows it to boot, and which is not copied even by Fast Hack 'em? Can I reformat the original bootable disk without making it non-bootable again? Thanks for your time.

Jeffrey Fox  
jdfox@primenet.com

The GEOS disks have their protection hidden past track 35, that is why the disk is so easily copyable. Try Setting Fast Hackem's nibbler past 35 to make a working backup.

If you have Renegade or Maverick, or some of the Kracker Jax volumes there is a module in a couple of those that can disable the protection check which saves your drives from the nasty head-knocking (the later Maverick can also make a 1581 bootable version of GEOS!)

Larry Anderson & Diane Hare  
<foxnhare@goldrush.com>

### Doug Cotton Touches Off International Incident Over SuperCPU

In article <hfnloar5w69.fsf@rumpu.hut.fi>, msmakela@rumpu.hut.fi (Marko Mäkelä) wrote: Have you heard of cross-compiling systems? With tools like dasm (a 65xx/6800/whatever macroassembler written in C) and prlink (my transfer system for 8-bit Commodores <-> Amiga or PC clone) it is much easier and more convenient to program than a C64 with the SuperCPU and with an assembler specially ported for it.

Doug Cotton: Um... since you've apparently never used a SuperCPU, Marko, how on earth did you deduce this? Is it just that you assume nothing could possibly work better than something you developed? Maybe that's true for you, but I find it far faster and easier to develop directly on the 64 itself with a SuperCPU than to go through the porting process and deal with tools that are different than what I've used for years. Not to mention what it would take to convert all the various source I've already developed to some other format.

Marko: I just finished a VIC-20 demo that was 100% developed on PC and Amiga. I'm running Linux, so the only thing I have to pay for is the hardware. As you said, with only \$300 you can get a PC laptop, and Linux will already run on 386 hardware, even with only 2MB RAM. As for CMD's pricing policy, don't you think that the developing costs of CMD's SCSI interfaces (also known as "hard disks", although the SCSI disks come from other manufacturers) have been paid several times already? But the prices haven't fallen.

Doug: You're quite incorrect. Our internal pricing structure on the interface part of the HD (and in turn the overall retail price) dropped about a year and a half after they were introduced. That was just due to having paid off the amortized startup costs, though, and not all of the development costs. Other than startup costs, development costs come mostly in the form of salaries. So that is just rolled into what we need to make on an ongoing basis to stay in business and keep paying those salaries.

Marko: I wouldn't expect the SuperCPU prices to fall significantly.

Doug: Nor would I.

Marko: And I wouldn't never ruin my C64 or C128 with a CMOS processor, even if the SuperCPU only costed 1/10th of its current price.

Doug: What difference does the fact that the processor is CMOS vs. NMOS have to do with using it in this case? About all you appear to be saying with such a statement is that you would only use such a product if it required more power to operate it -- which is of course a ludicrous comment, so I don't think that's what you really mean to say. Maybe you should clarify what it is you really mean here.

What I find really odd is that, if I read between the lines correctly, you're telling folks that it is far better to throw away the tools they're used to and buy an Intel box and use the tools you have created instead to develop for the Commodore -- when they could simply continue to use the same tools they always have with a SuperCPU and probably get the job done as quickly or even quicker -- and without the headaches of learning a new machine, new tools and converting old resources.

So let me see if I have this all correct, now. Don't buy a new CMOS-based SuperCPU for your Commodore for \$200, even though it lets you continue to use the software you're already used to using for Commodore development. Instead, you should buy a used CMOS-based 386 laptop for \$300, learn to use it and new software tools to do your Commodore development. By doing so you can send a strong message to CMD that this market just won't put up with companies that actually expect to be paid for new Commodore products; not only that, but the guy you get the used 386 from can put your money to better use, probably another upgrade for his Pentium.

Have I got it?

Doug Cotton  
E-mail: doug.cotton@the-spa.com  
Creative Micro Designs, Inc.  
Orders: (800) 6383-CMD  
Fax: (413) 525-0147  
Support: (413) 525-0023  
P.O. Box 646  
East Longmeadow, MA 01028  
<http://www.the-spa.com/cmd/>

## LETTERS TO THE EDITOR



## Re: LOADSTAR Electronic Catalog Now Online

Date: Fri, 6 Dec 1996 19:02:58 -0500

From: James Ianni

<sg928ah5@dunx1.ocs.drexel.edu>

Jeff Jones wrote:

Visit our website at

<http://www.loadstar.com/cat.htm>

and download our huge electronic catalog. It searches every character of 149 compressed Table of contents files for LOADSTAR 64, 33 table of contents files for LOADSTAR 128 Quarterly and all 21 Uptime back issues that we sell. Type in a keyword and the search begins. Total DL size about 500K

How about making it online and updated monthly via JAVA?

**Jeff:** I wish I had the time and resources to do so. Right now I manage LOADSTAR's web page at home, off the clock, and without the professional tools I need to do it as well as I could. You put about as much time into a web page as a newsletter page — only with infinitely more crashing involved.

## Subject: The BBS Police

From: "John Miller" <blkwolf@az.com>

Date: Mon, 16 Dec 1996 09:38:07 +0000

On your web page you wrote:

*I am on a crusade to stop sysops from reading private mail routinely and to warn them why reading mail can get them into big trouble. Over time, more and more lawyers are agreeing with me about this. In a year or so, I predict, people will see the wisdom of this.*

Hi there, I ran across your web page after doing a search on the legalities, etc. of sysops reading the private email and messages on their BBSs.

I find myself in a slightly unique situation. I am a sysop of my own BBS (A Reality Check), and up until recently a user of another certain Internet based BBS. Within the last week and a half 40+ paying

users on this other BBS, myself included, have found our accounts suspended or deleted. Some paid-for access removed due to the Sysops of this BBS reading our private email and whispers in multi-user chat conferences.

Seems the sysops of this BBS have decided that my system is now a competitive threat to them and completely banned the right of anyone even mentioning our name on their board. While this has always been the case about advertising BBSs etc. publicly in the teleconferences, they have gone to almost 24hrs of monitoring users public/private conversations, email, and any other what is supposedly a private message forum.

Examples are one user, a female, wrote her significant other an email message saying that if she wasn't on this when he logged on, then to look for her on our BBS. Her account was suspended within 15 minutes of sending that message on the grounds she was promoting a competing BBS.

Two days ago another paying customer was asked in a whisper about other nice BBSs to visit, when the user whispered back his account was almost instantly deleted (his private conversations were being monitored etc.). With the sysop(s) on that system publicly stating that user is no longer allowed on that BBS for breaking the rules and promoting other boards.

The mistreatment is only driving their own users away and bringing them to other boards like mine or causing users to give up on BBSing all together giving us all a bad name. Two days ago the sysop blurted that user's Credit Card info into the main public teleconference. There's 10-20 people talking in there. When the user complained and said he would see the sysop in jail, he was kicked off the system and his account then deleted.

The actions and activities of this other system have caused me to set up a mailing list service for our users that were also paying users on the other system, giving them a forum to coordinate and plan legal and civil action against the BBS in question. Do you have any information on laws and court rulings that might be of help to the affected users in this case?

John Miller

A Reality Check BBS

Phone: (360) 715-0621

Telnet/web: 204.57.139.66

(uv1.atlantica.net)

**Jeff:** Actually I didn't write the article. It was author, "computer lawyer,"

and radio personality Herb Kraft. He used to be found on the Genie BBS Roundtable. Since I'm no longer on Genie, I have no way of knowing if he's still there. I used to keep track of this stuff when I was hot about the slew of new laws which treated computer crimes differently than other crimes. Congress made crimes of activities that would not be crimes if the medium were not electronic. While the sysop has the right to keep anyone off his BBS, the people he's harmed here seem to have grounds for minor legal action. My suggestion is to contact a lawyer. Take him to small claims court for a refund. File complaints with the police. Let everyone affected know that they should leave some paper trail. Write (do not merely call) the Better Business Bureau. Last time I reported a used car dealer cheated me, they told me that they would not make a report without a signed letter.

One of the most ornery beasts you will ever run into is the sysop with a god complex. When you can press a button and take away another person's virtual universe, it can become a power trip but fast. The main problem is that usually the victim can do nothing. After all it is a private system, and the owner of a BBS can discriminate by simply saying, "Get outta here!" And you literally have to leave. Subsequent attempts to log on are considered criminal trespassing.

Before CMD took over Genie's Commodore Roundtable, the tales of canceled accounts were legendary. Even I was booted out by a person who was just plain a grouch. Repeated pleas with Genie proved that I have no recourse. Then one of the assistant sysops, who never lifted a finger to help me, wanted me to help when their own account was terminated suddenly and without reason or petition. Many people are addicted to being online, and the threat of cutting them off is a powerful means of control. Assistant sysops, sometimes called subops, are often afraid to defend patrons, just as any employee would think twice before accusing the boss if they thought someone was fired unfairly.

Herb makes a great point that Sysops who read the Email of their users can be charged as accomplices if they allow illegal intellectual property to pass through their system. Back when that was published, the government was heavy into prosecuting sysops who were oblivious to what their customers did. They wouldn't hold Hertz responsible for crimes committed in rental cars, but a poor sysop

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should be careful what he allows on his BBS — and *never* read Email. If Sysops by policy *never* inspect private Email, they can always claim ignorance and save thousands on computer equipment not confiscated.

## Source code

From: Charles Duncan

Date: Fri, 6 Dec 1996 15:11:18 -0500 (EST)

<cduncan@aldus.northnet.org>

I read your answer to Greg Waggoner in LS Forum about your not having space enough to include source code on the regular LS disks. While I am not a programmer and have no idea what I'm reading when I see source code, it occurred to me that you might talk Fender into putting out a Compleat Jeff Jones Source Code disk/disks.

It sounds as though the availability and use of the source codes are sufficiently of value to programmers that programmers may very well be willing to purchase such a disk from LOADSTAR thus increasing the coffers and, at the same time, making them available.

Just a thought.  
Charlie

Jeff: It's on the way.

## Howdies From Cowchip/AL

From: Ryocorp@aol.com

Date: Sun, 29 Dec 1996 14:14:32

Howdy Fender,

I never would have believed it. You don't remember me, but I sure remember you. I stuck with LOADSTAR through issue 70 something. I have wondered many times what happened to it, and especially you.

I have VERY reluctantly gone over to a clone machine. (Clones have no name.) Got it last month. My poor poor Commodore sits beside it over there, the monitor on the fritz. I have to keep it on all the time, because if I cut it off, it may not come back on. I figured, what the hell, spend \$400 for a new monitor if I could find one, or \$2000 for a clone. Simple choice. Ha.

I was extremely despondent, and very rude to those IBM clone minions of mine who offered to help me get started. I'm better now, but, unending disk

management isn't like working on the on 128. Ah well.

Boy, it sure is good to hear that you are still plugging. I hope you are content, and things are going well. I reckon the old LOADSTAR Towers are a little lower now. Your perch, I gather is not so lofty to some as it once was, but in my book you're tops!

Norman Morrison (Former 128 Beta tester, kinda)

## A Repairman on Aging Equipment

ctreesh@pop.qtm.net (Carey Treesh)

Date: 31 Dec 1996 03:14:17 GMT

I am a certified Commodore 64 repair person, but I work for a public school system now. But I can tell you that the age of a logic board or chip really has little bearing on its performance and reliability. Silicon based circuits don't really 'wear out.' They are typically damaged by spikes and stuff like that. The C64 power pack is a big black hunk of crap. Nuff said. You can still purchase new high-power good ones from SSI (1-800-356-1179). [Note from Jeff: CMD sells them also, and they will be around for Commodore in 1997] The thing about the resin build up is bunk. The problem with the C64 power supply for the most part is that it's built to die. The whole units internal parts are soaked with resin that hardens into a solid hunk, which lets no air ventilation pass through the rectifier or regulator (two parts that normally run REAL hot anyway)! The truth about power (watts output) is not that big of a deal unless you have a lot of extra junk in your C64 unit. The bigger deal with the 'high power units' is they have vent holes!

I think you can still get most of the C64 chips. The best logic boards are those with a lot of chips in sockets. That way when you get the infamous 'black screen power up' you can start swapping them.

Another good trick, but slightly dangerous is to use your bare finger and touch the black surface of each chip in your C64 while it is running. When you find the one that burns your finger off, that's the bad one! (note that voltage levels inside the C64 do not exceed about 17 volts DC, not enough to cause any shock hazards, but burn hazards are present!

The books I have seen and read on repair of the C64 are pretty much JUNK!

Pretty much ANY chip that goes bad on the C64 will almost ALWAYS cause the black power up screen. The PLA is the most common, and sadly, the most expensive and hard to find chip that dies. It controls memory mapping, and if it's toast, then normal power up sequence is probably not going to happen.

Any RAM chips that fail will cause crashing. Most ALL intermittent problems can be fixed by a bad ram chip. ROM chips on the other hand have checksums, and if they go bad, they typically are ALWAYS bad, not intermittently bad.

One thing I can say, right before Commodore took a dive, they were not even selling dealers (I worked for Tenex) chips any more, it was whole logic board exchange for about \$60 bucks. I typically did chip level repair for Tenex because I loved it, and because it normally was cheaper for everyone. But let me tell you, you gotta have soldering equipment. Those logic boards were a bear to de-solder parts from!

I work for a school now, and we still have Apple ][+'s that work just spiffy! So age of chips and logic boards really has not affected the reliability.

The one thing age has a big effect on is keyboard response. You will want to clean the keyboard pad surface every now and then.

Jeff: In typical spineless LOADSTAR fashion, we suggest you do not try any of these suggestions at home unless you are a qualified service technician. You could damage your computer, yourself — or both.

## Calling 1-800-LINES With questions instead of orders.

From: Colin McLean <wyle@ctaz.net>

> Frank McKee <frmckee@delphi.com> asked where he could find a C64 HD drive. Another person answered: Call CMD at 1-800-638-3263 for new drives. In response to that response you [Jeff Jones] wrote: *It's probably better to give out CMD's information number, which is 1-413-525-0023. Like no other 8-bit company, CMD is barraged with questions. If it's anything like we deal with at LOADSTAR, most of those calls come in over the 800 line -- and even if we hang up quickly, we still pay for those*

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# Anchors Aweigh II: Details about Anchors

By Gaeleyn Gasson, Email, moranec@hal9000.net.au. The URLs used in an anchor don't have to begin with "http://" (the format for hypertext on the World Wide Web). You can include other types of resources such as ftp, gopher, wais, news or Telnet. The following examples show how to include other resources on your home page:

## FTP:

```
<a href="ftp://ccnga.uwaterloo.ca/pub/cbm/telecomm/">ftp files from  
ccnga.uwaterloo.ca/pub/cbm/  
telecomm/</a>
```

Example: ftp files from  
ccnga.uwaterloo.ca/pub/cbm/telecomm/

## Telnet:

```
<a href="telnet://compuserve.com/">CompuServe Telnet Session</a>
```

Example:  
CompuServe Telnet Session

## Gopher:

```
<a href="gopher://  
gopher.soonet.ca/  
11%5cCOMPUTERSMITH">SSI  
Catalog</a>
```

Example: This lets the user view the  
Software Support International catalog.

## Email

Our poor overworked Jeff has no time to read mail, but he still wants to add the ability for readers of his home page to send him mail. To do so, he can use an anchor similar to the ones shown above, but this one is designed just for Email:

```
<hr>  
<address>Jeff Swift /  
swift@nowhere.com</address><p>  
I don't have time for <a  
href="mailto:swift@nowhere.com">ma  
il</a> but send me a note anyway.<p>
```

This will appear as:

Jeff Swift / [swift@nowhere.com](mailto:swift@nowhere.com)  
I don't have time for [mail](mailto:swift@nowhere.com) but send me  
a note anyway.

The HTML tags we've just used:

## <hr>

This gives a Horizontal Rule or line. It's a method of separating text. This tag doesn't have an "off" switch.

## <address> & </address>

This is used by the browser to learn the owner of the document. It's usually the last item in file. It includes the owners' Email address, not their postal address. This is the address that is used if the viewer chooses to "send a comment" to the document owner.

```
<a  
href="mailto:swift@nowhere.com">ma  
il</a>
```

This is an Email anchor. As with other anchors, it has three parts to it. Naturally you would insert your own address, and you can have any relevant text instead of the word "mail" for your anchor.

## Lists

On Jeff's personal page, he's decided to add a list of things about himself. He has to make a decision about what type of list he wants to use, as he can have unordered (bulleted), ordered (numbered), or a definition list.

**Unordered lists** look like this in HTML format:

```
<ul>  
<li> I work too much.  
<li> I love my C=64  
</ul><p>
```

When viewed, unordered lists appear as :

- I work too much.
- I love my C=64

Ordered lists look like this in HTML format:

```
<ol>  
<li> I work too much.  
<li> I love my C=64  
</ol><p>
```

Ordered lists appear as:

1. I work too much.
2. I love my C=64

The HTML tags we've just used for

unordered and numbered lists:

## <ul> and </ul>

The on and off tags to show the beginning and end of an unordered list.

## <ol> and </ol>

The on and off tags used before and after a numbered list. The "ol" stands for "ordered" list.

## <li>

Each item has <li> before it, designating it as a new item in the list.

## Definition Lists

Getting rid of Jeff for a moment, let's use another example to show a definition list. When constructing the QWKRR home page, I wanted to include a list of file names and their purpose. The easiest way to display this information was with a definition list. This formats the text consistently and it takes less key strokes than trying to format it manually.

Here's what a definition list looks like in HTML format:

```
<DL>  
<DT>QWKRR128 V4.30  
<DD>This is the main program (208  
blocks). This is additional text to  
show  
how more than one line of text is  
formatted.  
<DT>QWKC.STD  
<DD>Character set (5 blocks)  
</DL><P>
```

This is how a definition list will appear when viewed:

QWKRR128 V4.30  
This is the main program (208  
blocks). This is additional text to  
show how more than one line of  
text is formatted.  
QWKC.STD  
Character set (5 blocks)

The HTML tags for Definition Lists:

## <dl> and </dl>

The on and off tags used before and after a definition list.

## <dt>

Definition Term. This is used before the word or phrase to be defined, and is used before the actual definition.

## <dd>

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## Anchors Continued

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Definition. This is used before adding the definition or description.

## Adding Files And Graphics For Download

Adding programs to download and graphics involves using the same type of anchors as when linking to other places.

Jeff has a photo of himself that he wants to include on his personal page. He has it in two formats, one for Commodore users and one for those using a graphic browser. To let us download the file, he includes this text:

```
<A HREF="file.prg">Download
Commodore Photo</A> press the
letter -d- when your cursor is over the
text.<p>
```

When viewed, it will appear as:

**Download Compressed Koala (GG)**  
Commodore Photo press the letter -d-  
when your cursor is over the text.

Note that any file can be used here, not just a graphic file. For those who use other computers he has included an "in-line graphic". This will show his photo on the screen along with his text when someone using a graphical browser visits his page. The format for this is:

```

```

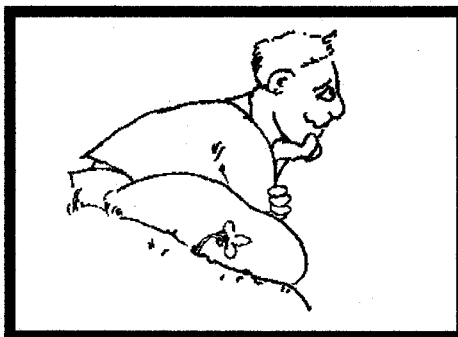
When viewed with Lynx, we will see the following. Depending on the version of Lynx we're using, we may not be able to download or view the image. Those with Graphic Web Browsers will see the image on the Web page.



Note that Jeff could have also made the photo.gif available to ALL users by adding a linked anchor within the in-line graphic command:

```
<a href="photo.gif"></a>
```

Anyone using a graphic browser would see the photo, and those of us who use text browsers could select the link and download the file to view it later. It appears as:



Note the frame is outlined now and clickable.

## HTML Tags for Local Files and Graphics:

```
<A HREF="file.prg">Download File</A>
```

This tag can be used for either a local HTML file (such as we used for Jeff Swift's personal page), or to offer a file to download that's in the same directory as the HTML file.

```

```

This is the basic tag when displaying a graphic file. This type of tag will only display the file or for Lynx users will show: "[INLINE]" or "[IMAGE]" without giving any meaningful text.

```
<a href="photo.gif"></a>
```

This example shows how to format a graphic image so it is a selectable link that will be displayed to graphic WWW browsers but will also be available easily to anyone using a text browser like Lynx. It has alternate text which acts as the name of the link to select. The brackets

("[ ]") are optional. Note that there is only one "</a>" in this example.

If you're creating a WWW site and don't have access to a graphic browser, avoid using formatting commands that influence the image you're displaying. This rule of thumb is especially important if you have several images you want to display on a page. It's like trying to put a jigsaw puzzle together when you can't see the pieces. Since the HTML format requires the use of tags that are also text, there are some characters you may want to avoid when writing HTML files. You can substitute them with alternatives the browser will recognize and replace as needed. These characters are: < > & "

Suggested alternatives to use instead are: "()" for < >, the word "and" instead of "&", and the apostrophe (') instead of the quote ("). If the alternatives are unacceptable, you can substitute a series of characters instead.

**Substitute: &lt; for <**  
**Substitute: &gt; for >**  
**Substitute: &amp; for &**  
**Substitute: &quot; for "**

More later! ☞

## 20 Questions with Jim Brain

**Jeff:** How would you define your position in the Commodore community?

**Jim:** I think of myself as a facilitator. Because of my presence online and in magazines, many people snail mail or email me with questions about their machines and software. While I don't always know the answer, I can usually point them to a valuable resource. My work with the FAQ and the World Wide Web site and lastly the Commodore meta-index (CaBooM!) puts me in a position to point people in the right direction. I also think I act as a spokesman for the various companies and individuals who actively support the CBM 8-bit line. I try to remain unbiased in my referrals, but if someone is looking for GEOS software, I refer them to CMD or one of the various GEOS third-party companies. If they are looking for publications, I let them know about LOADSTAR, Commodore World, and others supporting the environment through printed media. Many people send me comments exclaiming that they did not know anyone supported the CBM 8-bit line anymore. I like to dispel that rumor whenever possible.

**Jeff:** How did this position evolve?

**Jim:** In late 1993, I took over the FAQ maintenance, and also started a monthly Commodore trivia contest. With these two vehicles, my name and email address began circulating. With the introduction of my WWW site in 1994 at a time when there were few such sites, my online and off-line presence grew radically.

**Jeff:** How much Email do you receive in a week?

**Jim:** I receive about 30-60 messages a day, which translates to about 280 messages a week. Some are merely comments, while 1/3 of them are questions from CBM enthusiasts. Other inquiries include users looking to sell unwanted items.

**Jeff:** One of my professors flat out told me that I shouldn't be fooling with a Commodore, even if I was making money at it. He said he just couldn't understand it. *1 MHz?* Do people in your life constantly shake their heads and question you, incredulous about your use of Commodores?

**Jim:** I get a few such comments via email. In return, I place them in my

"Bonehead Hall of Shame" on my WWW site. It seems some folks can't handle diversity in computer usage. They claim that everyone needs a Pentium and nothing else is a computer. It's not a Commodore-only thing either, although the older computers garner more criticism. I always wonder what my Macintosh friends are to do in the world where the only computer is a Pentium (insert flavor of the month here). Some folks just can't accept that there is no "perfect computer system." Since the IBM PC garners market share, they assume it is the best. I find that a bit too simplistic. It's true I work with PCs during the day at work, but I also work on UNIX and Apple Macintoshes. Experience on all the computers I have worked with has taught me that each has its shortcomings. Therefore, I find such negative comments humorous, since they imply a lack of knowledge on the commentator's part.

**Jeff:** What about your business associates?

**Jim:** I work in the computer industry. Therefore, my co-workers also share my experience in working with various computer systems. While it is true they initially kid me about my interest in Commodore 8-bit systems, they are quick to acknowledge the usefulness and helpfulness of the CBM machines or others of the time period. Everyone where I have worked appreciates what I do for the Commodore arena, and some have become interested in the platform once again through our discussions. I find that those who understand the inner workings of computer systems appreciate the Commodore line and others like it more. They think it not that unusual for some to still use such a machine.

Now, this doesn't translate into my recommendation of Commodore 8-bit machines for all tasks. Just as any computer, the CBM 8-bit line features strengths and weaknesses. In certain applications or environments or social classes, the Commodore is the best choice. In others, there are better choices. The important thing people need to realize is that there is no computer that meets all needs. My business associates agree with this, which is why they understand my position.

I have received email from "PC elitists" claiming that everyone should buy a PC. I then calmly ask why someone who uses a computer to write letters and balance a checkbook should

upgrade. They reply that you can do those things on a PC, so everyone should get one. Sometimes I get them to understand that that is simply a waste of a valuable money, while I never can convince others. Oh well.

**Jeff:** What Commodore fact surprises PC elitists the most?

**Jim:** Many PC zealots can't seem to believe that a Commodore 8-bit can access multiple gigabytes of data, read and write IBM disks, utilize laser printers, go online at 33.6 kbps, or run at 20 MHz and access 16-32 MB of RAM. In short, many zealots base their arguments against the 8-bit line on a mental snapshot they have of its capabilities circa 1983. They refuse to acknowledge that expansion options and enhancement options exist today.

**Jeff:** What's your most commonly asked question?

**Jim:** Where can I buy (insert *software* or *hardware* here)?

**Jeff:** What are your hopes for the Commodore Community?

**Jim:** I hope that the community utilizes the computer networks and other means to create an online community that is strong and vocal. There are still many users who think they are alone with their CBM, and the rest of us know that is not true. I hope that the community continues to support the companies and publications that support this market, and I hope that community attempts to embrace other platforms of the era in some way. In a sense, the Atari/Apple/Coleco/ TI/ Timex/etc. crowd are all in the same boat. It's time that the differences be set aside and the community enlarged to learn from the other platforms. For instance, while the CBM community is just now tasting 20 MHz 65C816 performance, Apple IIGS folks have enjoyed 15 MHz for a few years. They can help programmers in the Commodore arena write good '816 code.

**Jeff:** Why are Commodore demos still so impressive?

**Jim:** I saw a piece on TV the other night about an individual who had very little money. Every chance he got, he gave away \$1000.00 to some worthy individual. The reporter noted that if a rich person gave away funds like that, no one would notice, but this man's giving in spite of his economic status made everyone take notice. I think demos on

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the CBM are the same. Anyone can squeeze 256 colors out of a PC box or a UNIX machine, but it takes talent to do so on a C64. As well, in a day of wavetable sound, creating pleasing tunes with special effects on a SID IC takes impressive talent and dedication.

**Jeff:** What do you do for a living?

**Jim:** At present, I work in the Advanced Technologies Group of CSG Systems, Inc., a large cable and telephone billing firm. My job includes checking out new products and technologies for possible integration into the firm's computer software. In layman's terms, I play all day with Internet and network technologies that are cutting edge and decide which are useful for the company.

**Jeff:** Are you a die hard Commodore user or a multi-platform user?

**Jim:** I am a multi-platform user. As I stated above, I like things about all types of machines, and I use each for different tasks. Some people claim that makes me a hypocrite. I fail to understand that. I never claimed that I use only a Commodore, because I don't. The PC at work puts the food on the table, and I am not ashamed of that. However, I don't view the PC at work as a special computer. It is simply a tool the company provides to perform my job, like a hammer or a chisel. There is a difference. I use my PC. I appreciate and enjoy my Commodore.

**Jeff:** A lot of Commodore users also use PCs. Because of that their web pages contain graphics and animations viewable only on a PC or Mac (for now). Why do people buy other computer yet stick to their Commodores? Personally I make a living on a Commodore, but thousands of others don't. What's the attraction?

**Jim:** As I mentioned above, the PC doesn't invoke any special feelings for me. It is simply a tool. However, I actually enjoy using my CBM. I enjoy the simplicity, the technical expertise, and the ease of programming. You just can't get that with today's machines.

**Jeff:** What's the biggest thing in Commodore right now?

**Jim:** In the US, I would say it is the CMD SuperCPU. Although the anticipated GEOS 3.0 is revving up interest. I don't know in Europe.

**Jeff:** Where do you see the platform going -- honestly?

**Jim:** I see it continuing on in some fashion for quite a few years, but unless the users rally around the platform and back up their enthusiasm with some financial support to companies supporting the market, I see the third-party support drying up in the short term. On the positive side, I see the Internet as a means to draw together the spread out and remote Commodore users into a common area. I am hoping to facilitate that as well, as I am revamping my WWW site and renaming it the "Virtual Internet Commodore User's Group." However, nothing speaks like money in keeping a platform viable. If someone can add some up-to-date sound and graphics to the CBM, I think the Commodore would make a very impressive Internet Network Computer.

**Jeff:** Will there ever be a day when the PC gobbles up the C-64/128, Mac and Amiga? 2000? 2010? Can this go on forever with no one making new C-64s?

**Jim:** It's hard for me to say. I haven't thought that far ahead. I would guess that the hype and marketing of the PC would serve to support your theory above. It all depends on how the user community embraces or fails to support the platform in the next few years. If a new market emerges (Internet NC), the Commodore might make inroads on the PC market. Nonetheless, I don't think we should worry about the PC "cartel" getting more powerful. I would worry about the CBM market getting smaller. People don't support machines that have no support. I sense that if CMD (in my opinion the biggest third-party hardware manufacturer) goes away or LOADSTAR (oldest publication) ceases to publish, the end will come rather quickly.

**Jeff:** What is it that you wished LOADSTAR would do but were afraid to say it?

**Jim:** I am not sure I am afraid to say it, but it would be nice if LOADSTAR would start covering the online community in more depth. WWW site reviews, information about online resources, etc. I think it is LOADSTAR's best interest to encourage its readers to get online with a major network like FIDOnet or Internet and find out what others are doing. I know LS has a WWW site, but I meant coverage in the publication. Other than that, Continue in

Commodore.

**Jeff:** Without spitting any amniotic fluid when you make the T-sound, how old are you?

**Jim:** 25. I was born in 1971.

**Jeff:** What is your area of expertise in the computer field?

**Jim:** Networking, C programming, WWW, Internet

**Jeff:** What do you do for 8 hours a day? Note that sleep is not an acceptable answer.

**Jim:** Well, like I said before, I come to work, play with new gadgets and software, and decide what is worth utilizing in products. In particular, I am looking at Internet technologies like Java, JavaBeans, JavaScript, ActiveX, CORBA, ORBs, IIOP, streaming audio and video, Intranet development, etc.

**Jeff:** Any announcements?

**Jim:** My WWW site will move from [www.msen.com](http://www.msen.com) soon to my personal domain: [www.jbrain.com](http://www.jbrain.com).



CaBoom!, my Yahoo-like meta index has already moved and is at:

<http://www.jbrain.com/caboom/>

Jim Brain  
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 10710 Bruhn Avenue  
 Bennington, NE 68007

## Ink Jets & the Commodore

By John Elliott. There are no books about printers in the computer section of most book stores. The manual for many ink jet printers advises how to use with Windows or System 7. It rarely tells how to use from DOS. My Epson ink jet manual does provide charts to aid selection of fonts and other text manipulation. It also advises that the reader should not have to use the information.

Since Windows and System 7 automate print decisions, printer manufacturers have taken an "If it isn't

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## Ink Jets

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broken, don't fix it." approach to advising the user about printer control.

### Speed Through Direct Control.

Direct control of the printer through embedded commands provides, however, some advantages. Most programs that use Windows are slower than their DOS versions, since the computer must run two programs rather than one. Direct DOS control prints more quickly. Most printers are shipped with some built in fonts. Since they do not have to be drawn, or loaded into memory, there is also a gain here in print speed. Many font packages warn that several megabytes of memory must be available both in computer memory and on the hard drive. If embedded commands are used from within an application to call fonts that are built into the printer, the oldest Mac or XT can produce a respectable range of print effects. These effects may extend beyond the range of print commands available from the word processor's menu.

**The Embedded Alternative.** Most Commodore applications have a limited number of print menu commands. Embedded commands provide as many effects as would a several hundred dollar word processor on another platform.

The original magazine documentation for SpeedScript described how to control the print out by placing a letter or numeral in reverse field (white on black), typing an equal sign, and following the sign with a decimal number. This is the embedded command. If 126 follows the equal sign, then whenever the reversed letter appears in the text, a tilde will be typed. Commodore users need a chart that will tell what each decimal value will do to the printer. My Xetec printer interface manual tells me how to convert hexadecimal charts from my Epson manual to decimal values. A hexadecimal value of ( converts to a decimal value of 40,94. When my Epson manual tells me that ESC G will give me an enhanced printing, my Xetec manual chart tells me that an embedded 27,71 will provide that effect.

**Breaking the Code.** My Star 1000 printer manual spells out not only the decimal values for each effect, but describes what it will look like. Not all of the control codes are identical between my Epson and Star, since they have some different features. My biggest assist in learning to control my printers has been

one person and his newsletter.

Ted Seitz is the editor of BBUG the newsletter of The Write Stuff word processor. Several of his issues chart and describe in detail which embedded command will produce which effect. Besides descriptions, there are full command charts for the HP and Star 1000 printers. It took me a while to realize that there were more printer commands available for the 128 version of TWS than for the 64 version, due to the larger memory. I still ran into a number of problems attempting to adapt Ted's BBUG directions to my Epson, not because they were difficult to perform, but because of some misconceptions I had about printers. Ted patiently coached me through each of my attempts, usually successfully, even though we had different printers.

What had triggered my interest in embedded commands was my purchase of an Epson Stylus IIs color ink jet printer. My Star 1000 allowed font and style control by control buttons on the front of the printer and mode and character set control through internal dip switches. My ink jet control panel does not give this degree of control. I am forced to learn embedded commands. With this knowledge however, I also have more control of my Star printer.

**Making an Impression Without Making an Impression.** It could be argued that a color ink jet printer is the most cost-efficient upgrade available for any computer, but especially our Commodores. There is no way of knowing whether the print was produced by WordPerfect on a Pentium or by a VIC 20 with 28K available. My Star and Epsoms are both dot matrix printers. While the Star is an impact printer, the Epson sprays ink on paper. Since the ink jet prints several times more dots per unit area than an impact printer (and the ink bleeds enough to fill in gaps), characters and lines have no visible dots. Ink coverage is solid. There are no "jaggies" on the edges of diagonal lines. A dramatic comparison of the two printers' output would be to use the italics mode of the largest available point size of capital letters. So long as the built in fonts of the ink jet are used, the diagonal lines will be smooth. The impact printer will have "stair steps." This incidentally, is also a problem with screen monitor print display. Print has "jaggies" or stairsteps even in VGA mode. An ink jet will produce better output than is visible with the screen display.

**Working to Scale.** More expensive impact printers advertise that they have scalability. If that means that I can change the size of my print, then that is true of my Star 1000. Besides compressed and normal size, I double, triple and quadruple print size with embedded commands. Text printed larger than normal will have jagged edges. My Star has six print sizes. My Epson ink jet can print from 8 to 32 points in size in increments of two. At all stages, the shapes are perfect. It may be that newer, more expensive impact printers can also do this.

**Noise?** I can talk on my phone while sitting beside my ink jet while it is printing. Those of us who use impact printers know what is unusual about that statement.

**Consumable Expense.** When my Star had produced several print intensive pages its output was no longer dark. My ink jet outputs the same darkness of image until the cartridge is empty. On the other hand, a ribbon costs about half the price of an ink jet cartridge. I have used alternately the same two ribbons for the last two years by manually re-inking them. I have not emptied one \$10 bottle of ink.

**Making Connections.** I do not know of a Commodore compatible ink jet printer. To connect to an ink jet is going to require a special interface cable. The kind of interface used to connect the computer and printer may affect the output. The creator of TWS word processor recommends that the interface be set to transparent so that all embedded commands will be sent unaltered to the printer. Sometimes if that is not done, an embedded command will be printed, rather than obeyed. The only advantage of my Xetec Junior under those circumstances is that it will allow the computer to talk to the printer. My Xetec Senior in transparent mode does provide an 8K buffer. Unless my document runs to several pages, almost immediately after I send the print command, I again have control of the computer, and am able to continue writing or work with my disk drive.

**Xetec Fonts.** All Xetec interfaces have built in fonts. The Junior has one: near letter quality. The Senior has NLQ and space for loading from disk two others. The Gold has four built in and space for loading four others. The Gold can also handle images. My Star impact printer can use all of these interface

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## Ink Jets

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features. My Epson ink jet can also. Unfortunately, the ink jet produces only a draft mode impression. Some technicians have suggested that this is to be expected, since although a Xetec letter has more dots in its matrix than does the impact printer, it has only a fraction of those available to the ink jet. A Canon ink jet user, though, tells me that his Xetec produces dark solid shapes with the Xetec fonts. He has lower expectations than I do, or the Canon may be able to make better use of the Xetec line.

**Parallel Connections.** I have another way of connecting my computer to my printers. I am told that my Xetec interfaces convert Commodore serial to parallel mode. In serial mode, information travels one bit at a time, sequentially. In parallel mode, many bits travel in parallel, side by side. Transmission speed is increased. The application must have a special driver or program that recognizes the parallel interface. Paperclip III has such a driver. There is a patch for the 128 version of TWS that allows parallel transmission. CMD sells a generic disk of GEOS drivers that includes parallel drivers. If you buy their geoCable II, the disk is included. Since the parallel port on Commodores is also the Commodore modem port, the geoCable II has two output connections so that a modem and a parallel cable can be simultaneously connected to the computer. Output to the printer is quite fast with this cable. It does not seem to be faster with my applications than I can manage with a buffered interface. While the document may be printed at about the same speed with both methods, the buffered interface returns control of the printer to me more quickly.

There are other advantages though to using a parallel cable. There is no need to adjust dip switches. It is possible to connect the computer to two printers simultaneously -- one by serial cable and the other by parallel. In my case that allows me to print to either my impact or ink jet printer by alternating device numbers.

**Some Impact Printer Advantages.** Most business offices have at least one impact printer, so that they can print forms that require carbon copies. I need my Star to take best advantage of Xetec fonts. When I print from TWS to my ink jet, I lose the ability to print in reverse (white on black), lettering. The ink jet is not a tractor feed printer. It cannot back up. The Illustrator version of TWS prints Print

Shop, FGM and Runpaint images within a text document by using either the automatic back up of Star and similar printers, or using the wait command with manual backup. I cannot use either backup procedure on my ink jet. The creator of the Illustrator developed a way of printing color images on a monochrome printer that requires multiple backup. So long as text is not mixed with the image, this can be done with the ink jet by repeatedly feeding the single sheet through the printer. The driver, however, only gives a draft mode image. When I want to post signs that are visible throughout our computer lab, I must use the Star impact printer with TWS. The Star quadruple embedded command gives me letters that are twice the 32 point height maximum of my Epson. The letters are very jaggy, but are readable from across the room.

**The Final Cartridge Advantage:** If the ink jet user also has access to the Final Cartridge III- or another cartridge with similar capabilities, then the power of the ink jet printer is multiplied. Every application that I have can print via my parallel cable so long as my Final Cartridge III is attached to the cartridge port. Although TWS for the 64 does not have a patch to enable using the parallel cable, it prints satisfactorily thanks to FINAL CARTRIDGE III. The FINAL CARTRIDGE III does color screen dumps. I found that my first attempts were tall and skinny when using the ink jet, possibly because it emulates a 24 pin printer. FINAL CARTRIDGE III however, allows me to adjust the vertical and horizontal dimensions of the image in several steps. Experimentation allows me to adjust the length/weight ratio to what I consider normal. I also have control over print density. While a full page at maximum density may take an hour to produce, the lowest, and often satisfactory density can be done in about 15 minutes. My only other way of getting intense color on my ink jet is to use geoPaint with Epson color drivers from the CMD disk I mentioned earlier. A problem is that only high res color images can be converted to geoPaint mode. TWS III screen dump will print any color image that is on the screen.

**GEOS Impressions:** GEOS produces very good, but not perfect printouts. The generic CMD disk has printer drivers for geoWrite that will at everything except maximum point size show no ragged edges to the letters. At maximum size, with italics, stairsteps are visible. In all cases, with the ink jet, the letters are solid and dark. If the Perfect

Print series of disks are obtained from CMD, extremely good print quality will be obtained for a wide range of fonts. At the maximum point size, there is a slight flakiness to the edge of the letters — especially with italics. These are flaws that would have to be looked carefully for.

**GeoPaint in color is a revelation.** While my Star 1000C Rainbow gives realistic color screen dumps with FINAL CARTRIDGE III, and good color printouts with geoPaint, color is of the pastel variety. With my color ink jet, colors are solid and vivid. geoPaint will require the Epson color driver rather than that for the Star Rainbow.

**Other Print Quality Factors:** I use photocopy paper for most of my work. If I were to use the more expensive glossy paper that is available for ink jets, the images and text would be more brilliant. To some extent the source image will affect the quality of the printed output, even if an ink jet printer is used. Even my FINAL CARTRIDGE III color ink jet screen dumps at highest resolution is full of dots when the source image is medium resolution. Medium resolution sacrifices density of image for a wide range of colors. A high res screen dump or geoPaint printout of the famous "Middle Earth" image is to my amateur eye, of magazine quality. My Star impact screen dump of the same picture, although it pleased me at the time I made it, is full of visible dots.

**Careful:** The cautions I read ten years ago about ink jets are still true. The ink will sink into some qualities of paper and blur. The ink sits briefly on top of the paper and if touched before drying, will smear. This also suggests that the paper not be stacked. Since the ink is very dark, with a light weight of paper there may be some show through to the other side. That problem is more noticeable though when I re-ink a ribbon for my Star impact printer.

**Hardwired Fonts:** I have access to 3 built in fonts with my Epson Stylus IIs: Courier, Roman, and Sans Serif. When the manual says I have 5, it is counting an additional Courier and Roman of a smaller point size. Since these fonts can scale from 8 to 32 points in increments of 2, I am not clear as to the distinction, unless it is harder in some Windows word processors to use the scaling feature. Some printer manufacturers include style (italic, bold, super/subscript, etc.) in counting fonts. By those alternate measuring sticks, I have a great many fonts.

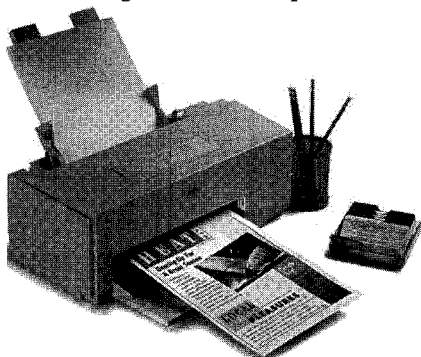
**The CMY or CMYK Choice:** It

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## Ink Jets

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takes me about three minutes to switch from monochrome black (K) to color (Cyan, Magenta, Yellow) mode. I have to replace the one mode cartridge with the other. If I try to print black with my color cartridge, the process is a mixture of the three primary colors, which is close to brown. If I had bought the next model up, the Stylus II, both the color and the black cartridge are simultaneously in the printer. The switch over is instantaneous. Some printers would then use the black from the black cartridge for the black portions of



Epson Stylus 500 replaces the CMYK Epson Stylus II

color pictures. Epson does not do this, since the black ink is of a different family than the color inks. The Stylus II on high quality paper produces a slightly higher quality image than does my IIs.

**Consumer Reports:** I paid less than \$200 American for my color ink jet printer. For me, it has been worth the investment. The Epson Stylus II and IIs are no longer being sold (unless as backstock). The Epson Stylus 500 is the new home flagship and is priced comparably.

Hewlett Packard use their own embedded codes, but sell separate font cartridges that allow a very wide range of fonts. Canon is a very popular ink jet printer with Commodore users. My local dealer allowed me to take the printer home to test for a week before I bought it. The regional representative for Epson had told the store manager that Epson no longer had built in fonts, since they were all supplied by Windows. A phone call to the 800 customer support lines of both Canon and Epson gave me the same message: We no longer have built in fonts. Jeff Jones had already informed me that if a printer will do a self test in a store (i.e., print out all the fonts and colors when a special key combination is pushed), it probably has built in fonts. In the store the Epson did a self test, showing all fonts. Do not buy, unless you have a liberal return policy.

An ink jet is one of the peripherals that can be linked to several platforms. My IIs model could be used by my Commodore with interface or a PC. The more expensive II model can also be used by a Macintosh.

If you make the same decision as I did: to use both kinds of dot matrix printer for their differing advantages, there are alternatives to continuously hooking and unhooking interface cables.

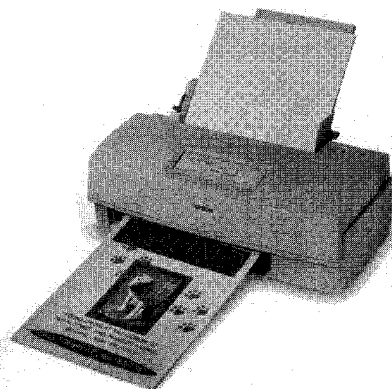
1. Use an interface cable such as the Xetec line from the printer port, and a parallel cable from the parallel (or Commodore modem), port.

2. Link by standard connections a Commodore impact printer (e.g., my Star 1000C Rainbow), to the computer printer port. You can then chain by connecting the ink jet printer via interface cable to the extra outlet on the Commodore printer.

3. Find a data switch box so that an a/b switch can select the appropriate printer. I bought one before I realized that the industry standard has "female" inputs on the switch box. The printer end of my cables also has a "female" end. I would need to buy a male/female adapter for each box input/output.

The Internet and ink jets are great equalizers. C64s, Pentiums and Macs produce the same e-mail and the same printed output on ink jets.

Note from Jeff: I tried to find a gif of the Epson Stylus Color II and Stylus Color IIs, but Epson's web page at [www.epson.com](http://www.epson.com), is very tight-lipped about the older Stylus line while they're pushing the new. However the images included here are almost identical to the older line. The specs are pretty much the same and (hey) so are the prices! Could these be the same printers with new names in order to keep them in the news?!? Probably not. I'm sure there were minor design changes and improvements hopefully in quality and not production cost efficiency. The Stylus Color II is a good printer with a barely



The Epson Stylus 200 replaces the CMY Stylus IIs

## Letters Continued

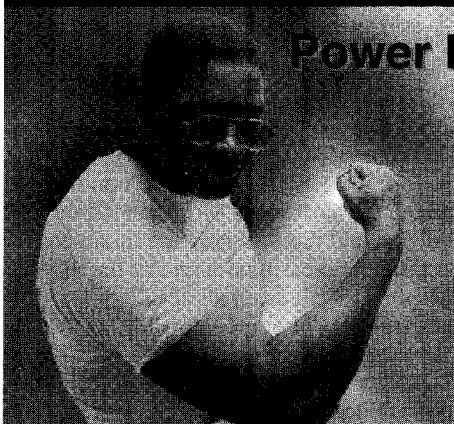
(Continued from page 4)  
calls. They aren't free.

I'm confused as to where you have to pay for the 1-800- fone call. It couldn't be where the customers ARE hanging up quickly and the company has to pay for the 800 line, increasing the cost of the drive? Maybe I didn't catch all of the conversation? Let me know.  
Wyle E.

**Jeff:** 800 lines are simply incentives to get orders. People are more likely to call in an order than to mail one in, but they are less likely to call if it's long distance, and they know it will take 5 minutes or more to place an order. So the vendor with the 800 number offers to pay for your call. When you dial an 800 number, it's like calling mom collect. The person you are calling gets the long distance bill for your call.

The reason that LOADSTAR has an 800 number, 800-594-3370, for orders and a different tech support number of 318-221-8718, is because orders bring in money, usually enough to pay for the call and the operator's salary. Every time the phone rings, it costs the company. If the phone is ringing every few minutes, all day, every day of the week, a company like CMD can spend thousands of dollars answering their 800 line just to say, "Please call our information line at 1-413-525-0023." Should they? Yes! If they go ahead and answer questions on the 800 line, it could cost them \$10,000.

Whenever I call CMD, whether from home or from the office, I dial 1-413-525-0023, not necessarily to help them, but because it's right. When you look in a phone book and see the departments of a store with different numbers for different departments, you dial the correct number. You do not dial the pharmacy to ask about the deli. Well, that's how CMD and LOADSTAR are listed: Orders 800 toll free, questions, 1+area code, BBS 1+area code. Sure, huge companies that practically bleed money have the luxury of 800 question lines. 8-bit companies do not bleed money. ☐



# Power Programming: Writing Re-Locatable Code

## Branch Tables

```
printtitlebox clc
bcc box'link

printcenter clc
bcc centerprint

bload'entry clc
bcc load

copymem'entry clc
bcc copymem

swappymem'entry clc
bcc swappymem

copymem2 clc
bcc copy2'link

dynamickeyboard clc
bcc d'link
```

This branch table would interface with BASIC like a JMP table:

```
sys address for 1st option
sys address+3 for 2nd option
sys address+6 for 3rd option
sys address+9 for 4th option
sys address+12 for 5th option
sys address+15 for 6th option
sys address+18 for 7th option
```

It springs to mind that if you only have two options, it might save bytes to have a simpler table:

```
bcc first option
bcs second option
```

BASIC and ML would interface with this type of code in the following fashion:

```
sys address for 1st option
sys address for 2nd option
or sys address+2 for 2nd option
```

Yes, you might save bytes in your branch table, but since these branches are conditional whether or not you sys to the correct location, you will have to *CLC* or *SEC* before each use, adding that one byte back — with spades if you call from many

points in ML or BASIC.

Branching is just like JMPing except for two things:

- Branching is conditional
- You can't branch more than 127 bytes ahead or backward

When I say branching is conditional, I mean *bcc box'link* will branch to *box'link* only if the carry flag is clear. *BVS box'link* will branch only if the overflow flag is set. All of your branch instructions are part of the 6502's *if engine*. As you can see, I have made sure that a branch occurs in my branch table by clearing the carry flag before branching.

The reason you can only branch forward or backward 127 bytes is because of the way branching works. Though your disassembler shows you something like *bcc \$c30c*, if you look to the left, it's only a two-byte instruction. It would be a 3-byte instruction for a JMP. This is because what's really in memory is *branch ahead or behind so many bytes*, not *branch to a specific two-byte address*. One of these bytes is the branch instruction. The other byte is the number of bytes plus direction.

If you want to branch 4000 bytes ahead, it simply means multiple branches are required.

## Remember

- JSR within relocatable code
- JMP within your relocatable code
- LDA, LDX, LDY, BIT, ORA, CMP or reference your relocatable code in any way
- STA, STX, STY, ROL, or alter your relocatable code in any way
- Store any data within your relocatable code

By Jeff Jones. Computers are like — *machines*, y'know. They go from one task to the next, very methodical and like clockwork. A simple block of machine code operates like this.

- 1 What do I do now?
- 2 What memory location do I do it with?
- 3 What do I do now..?

The pseudocode above could be relocatable as long as any memory location referenced in step 2 is not within the actual program, running where assembled, it would work. If it were *LOADed* elsewhere, that hard location referenced in step 2 would contain unexpected and most likely unusable data. This is why your basic rule for writing relocatable code is that you cannot have the program reference itself. You can however reference any *other* memory location in memory as we see in the next block of pseudocode:

- 1 Take this number
- 2 Add it with that number
- 3 Take this next number
- 4 Add it with a number you'll find at location 251
- 5 Take the resulting number
- 6 Add it with this number stored in the table of data stored at the end of this code.
- 7 increment pointers at 253 and 254
- 8 Am I at the end yet?
- 9 If not then branch back to step 1

Which step would cause a mess if your code were meant to be relocatable? Believe it or not, step 4 is perfectly okay because no matter where your code is running, location 251 will still be location 251. Step 7? Same thing. Step 6? There you go! You cannot refer to your own code.

Wait a minute! You're already thinking that you need to have a jump table in your code. A jump table must jump to code that is in the program. How do we get around this?

You cannot JMP, but you are free to branch all you want. Here's a look at the branch table in SMART BOOT, a boot program with built in ML tools, to be published on LOADSTAR #152.

## OFFICIAL NEAT STUFF!

A PROGRAM THAT ALWAYS KNOWS WHERE THE RELOCATABLE CODE IS!

```
10 reada:a=peek(66)*256+peek(65)+3
60000 data 0
```

**CERTIFIED**

If you tack a relocatable machine language program to the end of this BASIC program, peek(46)\*256+peek(45), then save the whole thing in a monitor, you will be able to LOAD the combined programs and edit between lines 10 and 60000 all you want. As long as a is defined after reading the last data statement that is on the last line in the program, this works without a hitch.

## The World Wide Game Depository

by Scott Eggleston. It's no surprise to anyone that the Commodore 64 is a great game machine. In fact, that's what everyone in the computing world seems to remember its sole purpose as being. In Europe, a keyboardless model of the 64 was even sold as strictly that: a game machine.

While these statements seem to make our humble computers two-dimensional, game-playing is a strong forte of the 64. Many, many users who have since left the Commodore world, continue to play their favorite 8-bit games on 64 imitation programs known as emulators. The best of these programs act just like a 64, from the opening startup screen, to the displaying of sprites, and reproduction of SID sound.

Evidence of the 64's continued popularity on other platforms can be seen on the Internet. This influence includes newsgroups and quite a few websites, which not only showcase the emulators themselves, but offer literally hundreds of games in a special format.

Now, before you warm-up your word processors with another letter to Jeff about those so-called "PC" articles that have appeared in the LOADSTAR Letter, hear me out. This is valuable information to any Commodore user who loves playing games on their machine. Besides, if you have a gripe about anything I write, email me!

As stated above, there is a slew of games on the Internet. The catch is that they are in emulator format, and probably compressed with PKzip. The first of these obstacles we can overcome quite easily, while others create more of a challenge.

Let's start with what we have power over. There are two common formats that Commodore games are put into for use with emulators. Remember, these will not run on your 64. You must restore them to their original state before they will work.

The first format is designated by the filename suffix .D64 which stands for "disk image." This format seems to be mostly used for games with multiple files, which are put together in this compressed archive format.

The program I use to dissolve these is E. Kaziberdov's freeware "D64 to C64," which runs in both 64 and 128 modes. Written in BASIC, it's a bit slow, but will get the job done, and is easily

modified if you want to tweak it. The program rewrites the entire 1541 disk image, track by track, from the source file to a destination disk. It will also work with CMD partitions, but remember that the program needs to see a 1541/71 disk. Once rewritten, you can move the resulting files around to other locations, but they may only work on a 1541.

I can't remember where I downloaded this particular program, but have recently uploaded it to two separate places. For those with a modem and no Internet access, check the LOADSTAR BBS (318/425-4382) for the self-extracting archive 'd64toc64.sfx'. For those with Internet access, check the FTP site ccnga.uwaterloo.ca in the pub/cbm/INCOMING/games directory for the same archive. If you don't have a modem, you won't want this program at all, since you can't download .d64 files in the first place.

Another common format contains the .T64 suffix which has been dubbed "tape image," but doesn't mean (thank goodness) that you have to extract the file to a tape drive to get it to work. These deal mostly with games that are contained in a single file. Unfortunately, I have yet to find any Commodore program which will let you return a .T64 to its original state. This is where some are going to hit a brick wall, while others, with some effort, will be able to access any game found on any website.

So now we have two stumbling blocks that our Commodores are unequipped (so far) to handle. One is a zipped game file, which will turn up about 90% of the time. Those who are making available these great games on their pages have every right to conserve hard drive space with zip compression. After all, they are not doing this for 8-bit users, but emulator-heads. The second block, as mentioned, is the .T64 format, which appears just as often as a .D64 file.

There is an excellent program, easily found on the Internet, which will solve these dilemmas, but requires a 286, or higher, to do so. It is called Star Commander, and can convert game files between any emulator format (including the rarely seen .p00), the original Commodore format, as well as unzip when PKunzip is in the same directory.

Once you've downloaded Star Commander (which weighs in at over 300k, compressed) and set it up on your (or your friend's) PC, you just need to get those games over to it for conversion.

I'm the one with the modem at my house, while my wife has the 286. I'll download the games to my 128, then copy them to an IBM formatted disk with Little

Red Reader (Big Blue Reader works, too). They then go into my wife's computer where I copy them to the Star Commander directory. Once converted, I copy them back to disk, then back to the Commodore with LRR. It works like a champ.

If you'd like to get a copy of Star Commander, check out the web site at <http://www.uwa.edu.au/cyllene/darrins/sc/sc.html>. This site contains the latest version, as well as documentation (for the curious), and several add-on utilities.

It'd be nice to have such programs on our Commodore, but so far nothing has materialized past the .D64 converters. QWKRR off-line mail reader users have been waiting years for a current unzipper, but nothing has happened. I think that a .T64 changer wouldn't be that tough, but you need someone with initiative and know-how to do it. I'm sorry to say I'm not qualified for that job, or I would take up the cause myself.

It really is amazing how much cool Commodore game software (much of which is unavailable anymore) is popping up all around the 'net by folks who don't even own Commodore products anymore, but still share an affinity for those wonderful games. There's just something about them that make them endearing and a joy to return to. Sure is nice of them to provide this service for us, don't you think? ☐

## Desktop geoPublishing 4: The Icing on the Cake

By Scott Eggleston. In the past two articles, we have discussed setting up the geoPublish master page, then filling your document with text. To finish this masterpiece of publishing, we move to the dramatic final act known as Page Graphics mode. After entering this mode (Commodore key then 'G' or select 'Page Graphics' from the 'mode' menu), you'll notice the very same toolbox that appeared when working on the Master Page. This toolbox gives you all kinds of goodies which are best suited for final touches on your project. Here we will discuss some of the common and not-so-common uses for these tools. I will not be discussing the specifics of each tool, as we already covered it in LOADSTAR

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## GeoPublishing

(Continued from page 13)  
Letter #38.

If there is anything you'll want Page Graphics mode for, it's creating titles. Using the Text tool, you can place a title of any size and at any place on your page. This is an easy task, with all following menus being very self-explanatory.

When creating these titles, a couple of pointers may keep your document a bit cleaner, and more professional looking. First, don't be afraid to use one font for the main title, and a different one for a subtitle. This will create a bit of diversity. **Do not**, however, *go berserk* with fonts because it **will make your publication look like a ransom note**. Be conservative, and you'll produce something attractive that people will want to read.

One font trick I've learned was an

*"One of my favorite pull quotes used white lettering on a black box..."*

effect I noticed on the cover of an old geoVision International (one of the best things I've ever seen created with geoPublish and a laser printer). There was a font that had a drop shadow--a feature common in DTP programs, but not to geoPublish. Upon closer inspection, it appeared that two fonts were stacked on top of each other (the background shadow being black, with the foreground a pattern), and slightly displaced, creating the effect.

While an easy process, just be careful of a couple of things. When you slap two graphic images (which is what these fonts are) on top of each other, they will have the exact same editing "fences" when clicked upon. This means the last font placed will be the one that is active, and the font underneath will become very difficult to modify, since you can't access it.

The solution is to change the dimension of both fences using the little black box in the lower right hand corner. If you make one box longer, and the other wider, they are much easier to select and tweak.

This effect also looks nice on a graphic. If you want anything to stand out

on your page, a drop shadow will do the trick. As with a font, just make a black box (if your image is square) and plop the picture on top of it.

Another nice effect is the "screen." This is an area of text that lies within a shaded box, separating it from the rest of the page.

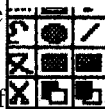
Most commonly used as a sidebar, the screen can add some nice balance and contrast to your page.

Unfortunately, I wouldn't advise using screens unless you are using a laser printer for output. Effective screens depend on the dots in the shaded area to be smaller than the ones that make up the font, which may not always work. It doesn't always look that great on my 300 dpi laser. A "rule of thumb" I've learned is that the larger the font within a screen, the better the whole thing will look. Remember to set your box to "transparent" (use the attribute tool), or the text will not show through.

Pull quotes are another nice touch that can be added within Page Graphics mode. These are those quotes directly from the text that can summarize an article, or a tease to get the reader to ingest the whole thing. Commonly, these are in the middle of the page, but they can be anywhere. Use the text tool to place the quotation, then add lines, a box, or even a screen to separate it from everything else.

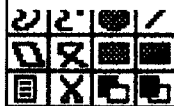
One of my favorite pull quotes used white lettering on a black box. These are just a few of the things you can do with this mode. While simple, you can really get just about any effect out of geoPublish you desire with a little ingenuity and effort. I'd be interested in hearing from anyone who had a neat geoPublish trick, which we could print and share with everyone else as well.

## Drop Shadows Demystified



Commodore

For Drop shadows, first type the shadow in black



Commodore

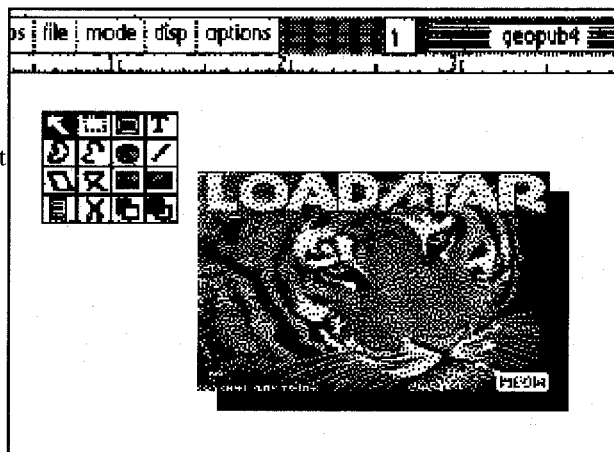
Now place the same type, different shade

### A Word About Laser Printers:

Once finished, most can simply go to "print" in the file menu, and their document will go directly to their printer--if it's dot matrix.

If you are fortunate enough to have access to a Postscript laser printer, the method is a bit different.

First, you must get a hold of version 1.8 of geoPubLaser. This is NOT the version that came with the last version of



Works great with clipart, too!

(Continued from page 14)

geoPublish, but an upgrade that came along later. CMD, who holds the rights to distribute Geoworks' Commodore line of GEOS products, does not have this version available. It was posted on QuantumLink when active, but the only

**Do not, however, go berserk with fonts because it will make your publication look like a ransom note.**

way to get it now is from another user. This can be tricky, but well worth it.

What geoPubLaser does is convert your document to the Postscript language (which is just an ASCII text file), and send it to your printer. Once there, the printer reads the commands and follows them. It's not always exactly what appears in geoPublish, but it's pretty close.

Second, you'll need an RS-232 interface or a geoCable to connect your computer to the laser printer. If you have an RS-232, you can use geoPubLaser as is. A geoCable (which you can make or buy from CMD) is faster, but you'll have to patch geoPubLaser to use it. This patch is on Jim Collette's excellent Collette Utilities disk, which CMD sells for \$19.95. This disk is full of great GEOS programs, including Postscript Processor, which allows landscape (sideways) printing of your geoPublish document.

This concludes my series on Desktop geoPublishing. I realize it was somewhat superficial, but I hope I have helped anyone who wants to delve into this nifty program. Remember, manuals are good to absorb and experience, experimentation, and vision will help you to produce something you're proud of. So get to it, good luck, and have fun! ☺

## Some Alternative Commodore Sources

by Scott Eggleston. Oh sure, I know many of you just smirked after reading the title of this article, since *any* source for Commodore products would be considered "alternative." While it's true that no mainstream stores or outlets sell Commodore products, it is just as well.

This is the 90s, where it's hip to be alternative, even though *hip* means mainstream. Commodore users are, without a doubt, out of the mainstream.

It's fairly obvious that if you need new or refurbished hardware you can always call Creative Micro Designs. If you want software, Software Support International will pop to mind. If it's a super deal you crave, you may find yourself sifting through thrift store and garage sale electronics. These sources are well known to most of us, but what about those we haven't heard of?

The following are a few of my favorite sources for Commodore goodies that some of you may not have heard of, or just not given a chance. After having some experience with them, I am glad to have done so. They give me yet another reason to keep doing what I'm doing.

Computer Bargain Store (phone 801-466-8084) After moving to Utah, I knew I'd end up at CBS at one time or another. I had read their product lists (published by LOADSTAR periodically), and was always intrigued by the diversity. Working in Salt Lake City (where CBS is located) gave me the chance to check it out.

I knew I was in the right place upon spotting a sign reading "Commodore" over the walkway to the door. Entering CBS was like walking into a room filled with every Commodore product imaginable.

One side of the room was monitors, the other, software. Joysticks lined the walls, while a magazine rack lay stuffed with Commodore books. There is a lot of stuff here, a bit disorganized maybe, but here.

There is also Amiga stuff, PC stuff, and even some old Atari stuff. CBS wants to stay in business, and has diversified their inventory. Some days Commodore stuff will sell (mostly by mail), while others will tap Amiga or PC products. I'm glad they have a bit of everything, which allows them to keep selling the stuff we love.

So what kinds of goodies have I found there? The more rare things I have seen are: Commodore 2002 monitors, an Amiga brand joystick (not for the Amiga computer, but those little red ones), a box of VIC-20 cartridges, Wico trackballs, and a 1541C disk drive. I even overheard talk about a ComputerEyes digitizer with camera that they were about to acquire.

There is a lot of software (mostly used) available, ranging from games to productivity. I don't think every title exists at CBS, but there is quite a bit. It's kind of neat to see a store with a selection of Commodore titles equaling those for the

PC.

If you can't find something you need, call Computer Bargain Store. Their prices are fair, and will ship your wants to you. They will only take phone orders between 12:00 noon and 6:00 PM MST. It's much more fun to go into the store, but we all can't be so lucky.

**Bare Bones Software** had a large selection of used software titles at pretty low prices. Alas, when calling to verify they still existed, I was informed both their telephone numbers had been disconnected. They may have changed numbers, but it's more likely they are out of business. Rats.

Those of us on the 'net are probably most familiar with the usual Commodore hangouts (comp.sys.cbm, various web sites), but that is not all we can benefit from. Our distant cousin and one-time rival, Atari has its own following in cyberspace, which we can glean some useful material from. Lately, I've been thinking about picking up an old Atari 2600 game system from a local thrift store. I was never allowed to get one as a kid, but I remember really enjoying some cool games (which depended more on playability than anything else) at various friends' homes. I turned to the Internet for more information about this nostalgic machine, and found quite a bit.

The neat thing was I found things associated with Commodores as well. Atari newsgroups (such as rec.games.video.classic) often have topics relating to our machines (mostly about games), and you will often find 'for sale' posts which include Commodore stuff. Web sites commonly have 8-bit links, which tend to include that great "gaming computer," the Commodore 64.

One of the neatest pages I've come across is Pete's Video Game Page (<http://www.netaxis.com/%7epetebuilt/videogames>). One link entitled Joystick Workshop talks exclusively about building an arcade-quality joystick setup using industrial strength parts. Details are included for all Atari game systems, including the 2600.

You may recall that we can use joysticks made for the 2600, and vice-versa. I would love to construct a heavy-duty joystick with separate fire buttons that I could slap in a gaming frenzy, and now I know how. This page even has a link to the company that makes parts for arcade games. Cool stuff.

Another interesting tidbit was found in the Atari FAQ (Frequently Asked Questions) file. In it, details are given to

## C-SPAN Online test

(Continued from page 1)

*simply a practical method for assigning politically left-to-right slots on the spectrum.*

I wonder what it would have said about me had I scored a 20 (dead center) instead of 21. It gives a more in-depth analysis, telling you on which points you are liberal and which points you are conservative for all questions. On the same web page I took a *political identity test*, which billed itself as the world's shortest test of its kind. It told me:

*According to your answers, your political philosophy is libertarian. Libertarians are self-governors in both personal and economic matters. They believe government's only purpose is to protect people from coercion and violence. They value individual responsibility, and tolerate economic and social diversity.*

I don't know if I completely agree with the analysis, but it didn't rub me the wrong way either. I asked C-SPAN if these tests would be around by the time you read this. Barkley Kern of C-SPAN responded, "We plan to keep the quiz online for several months, but it is moving off the homepage on January 1, 1997. In the new year, the quiz will be housed in our "Feature Archive." You can reach the archive from our homepage at [www.c-span.org](http://www.c-span.org). Thanks again for using C-SPAN online."

As of January 8th, the quiz was still where I first found it. This is a cool web site. In fact all of the website was great. It was a thrill to converse with a C-SPAN employee — even if it wasn't Brian Lamb. I hope you web crawlers enjoy it. ☐

## Alternative Commodore Continued

(Continued from page 15)

bypass a 2600's RF modulator, so you could hook the thing into a composite monitor. Not only that, but the instructions included the option to create separate Chroma and Luma outputs! Hmmm...now what besides a Commodore '02 series monitor could you plug that into?

It's amazing what you can find on the Internet when you fiddle with a search engine. It seems as if every used computer place with a web site will have some 8-bit Commie stuff still in stock. The stock is usually small, and maybe common, but it's out there, and you may find something really good. One interesting page (like a dummy, I didn't save the address) had every dust cover ever invented for every piece of Commodore hardware. I was stunned. The list went on and on. I've never used dust covers myself, but if you need one, they're still available, and will even say "Commodore 64" (or whatever) on the outside.

My advice when using a search engine such as Webcrawler, Alta Vista, or Yahoo!, is to try other variations besides "commodore." You may be surprised at what results appear when "commodore 64" or "commodore 128" is selected (remember to put any phrase with spaces within quotations). Other good ones to try are "commodore 64 games" or "8-bit" or "commodore hardware." There are many things to try, which is half the fun.

I really get a kick out of discovering some new obscure Commodore source. It makes my hobby more interesting, turning it into more of a treasure hunt. Who needs being beaten over the head by an advertising blitz anyway? ☐

# LOADSTAR LETTER #41

606 Common Street, Shreveport LA 71101

- **Commodore News**
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